played graphical objects (e.g., **150**) by dampening high frequency components of the displayed graphical objects (e.g., **150**). Display screen **130** may also blur graphical objects (e.g., **150**) by dampening high frequency components of the displayed graphical objects (e.g., **150**) in one embodiment. As such, the graphical data used to display the graphical objects (e.g., **150**) may be modified to sharpen the graphical objects (e.g., **150**) before display. The pre-sharpening may amplify the high frequency components of the displayed graphical objects (e.g., **150**) such that the blurring associated with optical component **140** and/or front display screen **130** may reduce the amplified high frequency components upon passing the graphical objects through the components (e.g., **140** and/or **130**) of the MCD (e.g., **110**). In one embodiment, the blurring of optical component **140** and/or front display screen **130** may return the amplified high frequency components to their pre-compensated or normal levels.

[0031] Although FIG. **2** attributes certain types of image distortion (e.g., shown by frequency spectrum groupings **240** and **250**) to specific components (e.g., **130** and/or **140**) of the MCD (e.g., **110**), it should be appreciated that one or more of the MCD components (e.g., **130**, **140**, etc.) may alternatively distort (or produce no measurable distortion of) displayed graphical objects (e.g., **150**) in other embodiments. Although FIG. **2** shows only one optical component (e.g., **140**), it should be appreciated that MCD **110** may comprise more than one optical component in other embodiments. Additionally, although FIG. **2** shows only two display screens (e.g., **120** and **130**), it should be appreciated that MCD **110** may comprise a larger or smaller number of display screens in other embodiments, where any additional display screens may be positioned behind, between or in front of (or any combination thereof) the MCD components (e.g., display screen **120**, display screen **130**, and optical component **140**) depicted in FIG. **2**. Further, it should be appreciated that the elements (e.g., **110**-**160**) depicted in FIG. **2** are not drawn to scale, and thus, may comprise different shapes, sizes, etc. in other embodiments.

[0032] FIG. **3** shows exemplary computer-implemented process **300** for processing graphical data for improved display quality on a multi-component display in accordance with one embodiment of the present invention. FIG. **4** shows exemplary system **400** for processing graphical data for improved display quality on a multi-component display in accordance with one embodiment of the present invention. System **400** may be used to perform process **300** in one embodiment, and therefore, FIG. **4** will be described in conjunction with FIG. **3**.

[0033] As shown in FIG. **3**, step **310** involves accessing graphical data. The graphical data (e.g., **415**) may be accessed from a graphical data source (e.g., **410**) as shown in FIG. **4**, where the graphical data source may comprise a memory (e.g., a frame buffer, main memory of a computer system, etc.), a processor (e.g., a graphics processing unit (GPU), central processing unit (CPU), etc.), other system/device (e.g., coupled to system **400**, etc.), etc. The graphical data (e.g., **415**) may be accessed by a graphical data processing component (e.g., **420**) in one embodiment. Graphical data processing component **420** may be implemented by hardware (e.g., a graphics processing unit, an application-specific integrated circuit (ASIC) coupled to a graphics processing unit, etc.), software (e.g., graphics drivers, operating system code, etc.), or a combination thereof.

[0034] Step **320** involves accessing graphical alteration information associated with a MCD. The graphical alteration information (e.g., **422**) may represent a distortion or image alteration associated with an optical component (e.g., **140**) of an MCD (e.g., **110**) produced when displayed graphical objects (e.g., **150**) are passed or viewed (e.g., by observer **160**) through the optical component (e.g., **140**). Alternatively, the graphical alteration information (e.g., **422**) may represent a distortion or image alteration associated with a display screen (e.g., **130**, etc.) of an MCD (e.g., **110**) produced when displayed graphical objects (e.g., **150**) are passed or viewed (e.g., by observer **160**) through the display screen (e.g., **130**). And in other embodiments, the graphical alteration information (e.g., **422**) may represent a distortion or image alteration associated with an optical component (e.g., **140**) and a display screen (e.g., **130**, etc.) of an MCD (e.g., **110**) produced when displayed graphical objects (e.g., **150**) are passed or viewed (e.g., by observer **160**) through the optical component (e.g., **140**) and the display screen (e.g., **130**). Additionally, in one embodiment, graphical alteration information **422** may comprise a frequency response of an optical component (e.g., **140**) and/or a display screen (e.g., **130**, etc.) of an MCD (e.g., **110**).

[0035] The graphical alteration information (e.g., **422**) may be predetermined (e.g., stored in a memory of component **420**, stored in a memory coupled to component **420**, input by a user, etc.). Alternatively, the graphical alteration information (e.g., **422**) may be dynamically determined (e.g., during operation) using an electrical and/or mechanical optical reception component (e.g., **160**), where the graphical alteration information (e.g., **422**) may be fed back (e.g., to component **420**) for processing (e.g., thereby forming a control loop to control image distortion associated with MCD **110**).

[0036] As shown in FIG. **3**, step **330** involves transforming the graphical data (e.g., **415**) from a first space to a second space (e.g., using component **420**). The graphical data (e.g., **415**) may be transformed from a current space to a space where processing to compensate for image distortion/alteration (e.g., caused by components of MCD **110**) may be performed on a select number (e.g., fewer than all) of channels. In one embodiment, the graphical data (e.g., **415**) may be transformed from a red-green-blue (RGB) color space to a luminance-chrominance space (e.g., QTD, YUV, CIE LUV, CIE LAB, etc.).

[0037] In one embodiment, a transformation of graphical data (e.g., **415**) from a RGB color space to a QTD luminance-chrominance space may be performed in accordance with the following exemplary computer code:

```
X=[¼ ½ ¼; 1-10; ½ ½-1];

Q=X(1,1)*Image(:,:,1)+X(1,2)*Image(:,:,2)+X(1,3)
*Image(:,:,3);

T=X(2,1)*Image(:,:,1)+X(2,2)*Image(:,:,2)+X(2,3)
*Image(:,:,3);

D=X(3,1)*Image(:,:,1)+X(3,2)*Image(:,:,2)+X(3,3)
*Image(:,:,3),
```

where “Image(:,:,1)” may represent the red channel of the graphical data (e.g., **415**), “Image(:,:,2)” may represent the green channel of the graphical data (e.g., **415**), and “Image (:,:,3)” may represent the blue channel of the graphical data